

CLAIMS

1. An information recording medium, comprising:
a first recording layer and a second recording layer in which record
5 information can be alternately recorded,
at least one of said first recording layer and said second recording
layer comprising: an anchor area which is to record therein anchor
information which is referred to in reading file system information for
controlling at least one of recording and reproduction of the record
10 information; and an update area to update-record therein the anchor
information.
2. The information recording medium according to claim 1, wherein the
update area is included in a user area to record therein the record
15 information.
3. The information recording medium according to claim 1, wherein the
update area is included in a border management area to manage a border
area which is a recording unit by which the record information is alternately
20 recorded.
4. The information recording medium according to claim 1, wherein at
least one of said first recording layer and said second recording layer
comprises a pointer recording area to record therein pointer information
25 which indicates an address value of the update area in which the anchor
information is update-recorded.

5. The information recording medium according to claim 4, wherein the pointer recording area is included in a recording management area to manage the recording of the record information.

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6. The information recording medium according to claim 1, wherein at least one of said first recording layer and said second recording layer comprises a flag area to record therein an update flag which indicates whether or not the anchor information is update-recorded into the update area.

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7. The information recording medium according to claim 6, wherein the flag area is included in a border management area to manage a border area which is a recording unit by which the record information is alternately recorded.

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8. The information recording medium according to claim 1, further comprising a position information recording area to record therein position information which indicates a position of the anchor area.

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9. An information recording apparatus, comprising:

a recording device for recording record information onto an information recording medium, comprising a first recording layer and a second recording layer in which the record information can be recorded;

a first controlling device for controlling said recording device to record the record information alternately into said first recording layer and said second recording layer; and

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a second controlling device for controlling said recording device to update record anchor information, which is recorded in anchor area as being a start point in reading file system information for controlling at least one of recording and reproduction of the record information and which is referred to in reading the file system information, into a recording area other than the anchor area of at least one of said first recording layer and said second recording layer as the record information.

10. The information recording apparatus according to claim 9, wherein said second controlling device controls said recording device to update-record the anchor information into at least one portion of a user data area to record therein the record information.

11. The information recording apparatus according to claim 10, wherein said second controlling device controls said recording device to update-record the anchor information into the at least one portion of the user data area before closing a border area which is a recording unit by which the record information is alternately recorded.

12. The information recording apparatus according to claim 9, wherein said second controlling device controls said recording device to update-record the anchor information into a border management area to manage a border area which is a recording unit by which the record information is alternately recorded.

13. The information recording apparatus according to claim 12, wherein

said second controlling device controls said recording device to update-record the anchor information into the border management area in closing the border area.

- 5 14. The information recording apparatus according to claim 9, further comprising a third controlling device for controlling said recording device to record pointer information which indicates an address value of a recording area to which the anchor information is update-recorded.
- 10 15. The information recording apparatus according to claim 14, wherein said third controlling device controls said recording device to record the pointer information into a recording management area to manage the recording of the record information.
- 15 16. The information recording apparatus according to claim 14, wherein
 said second controlling device controls said recording device to
update-record the anchor information into a recording area which follows a
recording area in which the record information is already recorded, in
completing the recording of the record information, and
- 20 said information recording apparatus further comprises a judging
device for judging whether or not the address value indicated by the pointer
information is equal to an address value of a recording area in which the
record information is lastly recorded.
- 25 17. The information recording apparatus according to claim 9, further comprising a fourth controlling device for controlling said recording device to

record an update flag which indicates whether or not the anchor information is update-recorded by said recording device.

18. The information recording apparatus according to claim 17, wherein
5 said fourth controlling device controls said recording device to record the update flag into a border management area to manage a border area which is a recording unit by which the record information is alternately recorded.

19. An information recording method in an information recording
10 apparatus comprising: a recording device for recording record information onto an information recording medium, comprising a first recording layer and a second recording layer in which the record information can be recorded,

said information recording method comprising:

a first controlling process of controlling said recording device to record
15 the record information alternately into said first recording layer and said second recording layer; and

a second controlling process of controlling said recording device to
update-record anchor information, which is recorded into anchor area as being
a start point in reading file system information for controlling at least one of
20 recording and reproduction of the record information and which is referred to in reading the file system information, into a recording area other than the anchor area of at least one of said first recording layer and said second recording layer as the record information.

25 20. An information reproducing apparatus for reproducing the record information recorded on said information recording medium by said

information recording apparatus according to claim 9,

said information reproducing apparatus comprising:

a first reading device for reading the anchor information which is recorded in the anchor area or which is update-recorded into the recording
5 area other than the anchor area of at least one of said first recording layer and said second recording layer;

a second reading device for reading the file system information on the basis of the read anchor information; and

a reproducing device for reproducing the record information on the
10 basis of the read file system information.

21. An information reproducing method of reproducing the record information recorded on said information recording medium by said information recording apparatus according to claim 9,

15 said information reproducing method comprising:

a first reading process of reading the anchor information which is recorded in the anchor area or which is update-recorded into the recording area other than the anchor area of at least one of said first recording layer and said second recording layer;

20 a second reading process of reading the file system information on the basis of the read anchor information; and

a reproducing process of reproducing the record information on the basis of the read file system information.

25 22. A computer program for record control to control a computer provided for the information recording apparatus according to claim 9, said computer

program making the computer function as at least one portion of said first controlling device and said second controlling device.

23. A computer program for reproduction control to control a computer
5 provided for the information reproducing apparatus according to claim 20,
said computer program making the computer function as at least one portion
of said first reading device, said second reading device, and said reproducing
device.